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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,337	08/23/2001	Karl-Heinz Krah	41110	8132

1609 7590 01/30/2004

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EXAMINER

JEFFERY, JOHN A

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 01/30/2004

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,337

Applicant(s)

KRAH, KARL-HEINZ

Examiner

John A. Jeffery

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 17-34, 45-51 and 73-85 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-34, 45-51 and 77-85 is/are allowed.
- 6) ☒ Claim(s) 1, 3-10 and 73-75 is/are rejected.
- 7) ☒ Claim(s) 2 and 76 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☒ Interview Summary (PTO-413) Paper No(s). 11.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, and 73-75 are rejected under 35 USC 102(b) as being anticipated by Ansell (US4622087). Ansell (US4622087) discloses a meltable member 1 with integral "fastener" comprising inclined cavities 8 formed between the inner and outer surfaces of the meltable member. The cavities fasten the electric heating element to the meltable member. See col. 1, lines 30-45 and Figs. 1, 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ansell (US4622087) in view of JP9-257183. The claims differ from the previously cited prior art in calling for the pipe to have a tapered bell end. But such pipes are well known in the art as evidenced by JP9-257183 in Figs. 1, 2, 6, and 7. Such a shape

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facilitates easier engagement with a smaller-diameter second pipe. In view of JP9-257183, it would have been obvious to one of ordinary skill in the art to provide a pipe with a tapered bell end in the previously described apparatus to facilitate easier engagement with a smaller-diameter second pipe. Regarding claim 9, no criticality is seen in the degree of taper claimed and its choice would be the mere result of routine experimentation. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233,235 (CCPA 1955).

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ansell (US4622087) in view of GB939664. The claims differ from the previously cited prior art in calling for the heating element to be S-shaped and V-shaped. Providing an S-shaped electric heating element disposed on a cylindrical substrate is conventional and well known in the art as evidenced by GB939664 noting Fig. 7. Moreover, a comparison of Figs. 6 (wound heater) and Fig. 7 suggests to one of ordinary skill in the art that a wound heater can be replaced with an S-shaped heater. In view of GB939664, it would have been obvious to one of ordinary skill in the art to replace the wound heater with an S-shaped heater so that more heat per unit area is obtained by zigzagging the heating element, thereby more uniformly heating the cylinder. Regarding claim 4, no criticality is seen in the use of a V-shaped element in lieu of an S-shaped element in view of both elements' serpentine configuration providing higher heat density per unit length. Moreover, the selection of a V-shaped element in lieu of an S-

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shaped element would constitute a mere engineering design preference well within the level of one of ordinary skill in the art.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ansell (US4622087) in view of GB939664 and further in view of Nakao (US5324920). The claim differs from the previously cited prior art in calling for securing the heating element at each bend of the element. Securing an S-shaped heating element at each bend of the element is conventional and well known in the art as evidenced by Nakao (US5324920) noting fasteners 14 that secure the sinuous elements at each bend. See Figs. 2, 4, and 5 and col. 5, lines 8-32. By mounting the sinuous heater at spaced intervals at each bend, there is more freedom for the elements to thermally expand and contract during use. In view of Nakao (US5324920), it would have been obvious to one of ordinary skill in the art to mount the sinuous heater at spaced intervals at each bend, thereby allowing the elements more freedom to thermally expand and contract during use.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ansell (US4622087) in view of Wise (US3788928). The claim differs from the previously cited prior art in calling for a pipe with a spigot end. Pipes with spigot ends in pipe joining apparatus are conventional and well known in the art as evidenced by Wise (US3788928) noting pipe 10 with spigot end that mates with a corresponding pipe 12. In view of Wise (US3788928), it would have been obvious to one of ordinary skill in the

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art to provide a pipe with spigot end in the previously described apparatus so that a pipe was provided adapted to mate with the other pipe to be welded.

Allowable Subject Matter

Claims 2 and 76 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 17-34, 45-51, and 77-85 are allowable over the art of record.

Response to Arguments

Applicant's arguments filed 10/17/03 have been considered but are deemed to be moot in view of the new grounds of rejection.

Final Rejection

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this or earlier communications from the examiner should be directed to John A. Jeffery at telephone number (703) 306-4601 or fax (703) 305-3463. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM EST. The examiner can also be reached on alternate Fridays.

The fax phone numbers for the organization where this application or proceeding is assigned are:

Before Final	(703) 872-9302
After Final	(703) 872-9303
Customer Service	(703) 872-9301

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Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, appearing to read "John A. Jeffery", with a stylized flourish at the end.

**JOHN A. JEFFERY
PRIMARY EXAMINER**

1/29/04